

IN THE CLAIMS

Please amend Claims 4, 5, 11 and 12, and add Claims 27-32, to read as follows.

1-3. (Canceled)

4. (Currently Amended) ~~A speech signal processing~~ An apparatus for forming a speech segment dictionary for use in speech synthesis, comprising:

speech segment search means for searching a speech database for speech segments that satisfy a phonetic environment;

HMM learning means for computing HMMs of phonemes on the basis of a search result of said speech segment search means;

segment recognition means for performing segment recognition of the speech segments on the basis of the HMMs of the phonemes; and

registration segment means for determining and registering a speech segment in a segment dictionary when the number of speech segments recognized by said segment recognition means is not less than a predetermined value.

5. (Previously Presented) The apparatus according to claim 4, wherein said registration segment means registers a speech segment in the segment dictionary if at least a vowel part of the speech segment is correctly recognized, even when the number of

speech segments recognized by said segment recognition means is not more than a predetermined value.

6-10. (Canceled)

11. (Currently Amended) A ~~speech signal processing method~~ for forming a speech segment dictionary for use in speech synthesis, comprising:

a speech segment search step of searching a speech database for speech segments that satisfy a phonetic environment;

an HMM learning step of computing HMMs of phonemes on the basis of a search result in said speech segment search step;

a segment recognition step of performing segment recognition of the speech segments on the basis of the HMMs of the phonemes; and

a registration segment step of determining and registering a speech segment in a segment dictionary when the number of speech segments recognized in said segment recognition step is not less than a predetermined value.

12. (Previously Presented) The method according to claim 11, wherein said registration segment step includes a step of registering a speech segment in the segment dictionary if at least a vowel part of the speech segment is correctly recognized, even when the number of speech segments recognized in said segment recognition step is not more than a predetermined value.

13-26. (Canceled)

27. (New) A speech synthesis apparatus comprising a unit for synthesizing speech and a unit for forming a speech segment dictionary for use in speech synthesis, the unit for forming a speech segment dictionary for use in speech synthesis comprising:

speech segment search means for searching a speech database for speech segments that satisfy a phonetic environment;

HMM learning means for computing HMMs of phonemes on the basis of a search result of said speech segment search means;

segment recognition means for performing segment recognition of the speech segments on the basis of the HMMs of the phonemes; and

registration segment means for determining and registering a speech segment in a segment dictionary when the number of speech segments recognized by said segment recognition means is not less than a predetermined value.

28. (New) The apparatus according to claim 27, wherein said registration segment means registers a speech segment in the segment dictionary if at least a vowel part of the speech segment is correctly recognized, even when the number of speech segments recognized by said segment recognition means is not more than a predetermined value.

29. (New) A speech synthesis apparatus comprising (i) a unit for forming a speech segment dictionary for use in speech synthesis, and (ii) a unit for synthesizing

speech, wherein said unit for forming a speech segment dictionary for use in speech synthesis comprises:

speech segment search means for searching a speech database for speech segments that satisfy a phonetic environment;

HMM learning means for computing HMMs of phonemes on the basis of a search result of said speech segment search means;

segment recognition means for performing segment recognition of the speech segments on the basis of the HMMs of the phonemes; and

registration segment means for determining and registering a speech segment in a segment dictionary when the number of speech segments recognized by said segment recognition means is not less than a predetermined value,

and wherein said unit for synthesizing speech comprises:

a unit for inputting text data; and

a unit for synthesizing speech corresponding to the inputted text data, using the unit for forming a speech segment dictionary for use in speech synthesis.

30. (New) The apparatus according to claim 29, wherein said registration segment means registers a speech segment in the segment dictionary if at least a vowel part of the speech segment is correctly recognized, even when the number of speech segments recognized by said segment recognition means is not more than a predetermined value.

31. (New) A speech synthesis method comprising (i) a method for forming a speech segment dictionary for use in speech synthesis, and (ii) a method for synthesizing speech, wherein said method for forming a speech segment dictionary for use in speech synthesis comprises:

a speech segment search step of searching a speech database for speech segments that satisfy a phonetic environment;

an HMM learning step of computing HMMs of phonemes on the basis of a search result in said speech segment search step;

a segment recognition step of performing segment recognition of the speech segments on the basis of the HMMs of the phonemes; and

a registration segment step of determining and registering a speech segment in a segment dictionary when the number of speech segments recognized in said segment recognition step is not less than a predetermined value,

and wherein said method for synthesizing speech comprises:

an input step of inputting text data; and

a speech synthesis step of synthesizing speech corresponding to the inputted text data, using the method for forming a speech segment dictionary for use in speech synthesis.

32. (New) The speech signal processing method according to claim 31, wherein said registration segment step includes a step of registering a speech segment in the segment dictionary if at least a vowel part of the speech segment is correctly

recognized, even when the number of speech segments recognized in said segment recognition step is not more than a predetermined value.